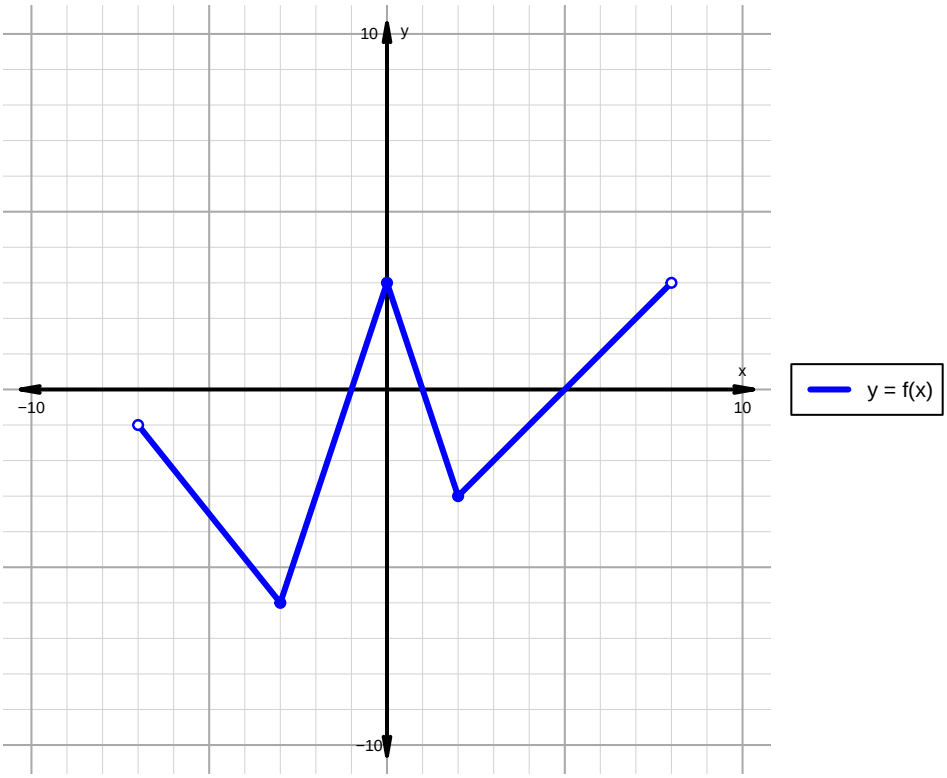
Name: Date:

Intervals, Transformations, and Slope Solution (version 156)

1. The function f is graphed below.

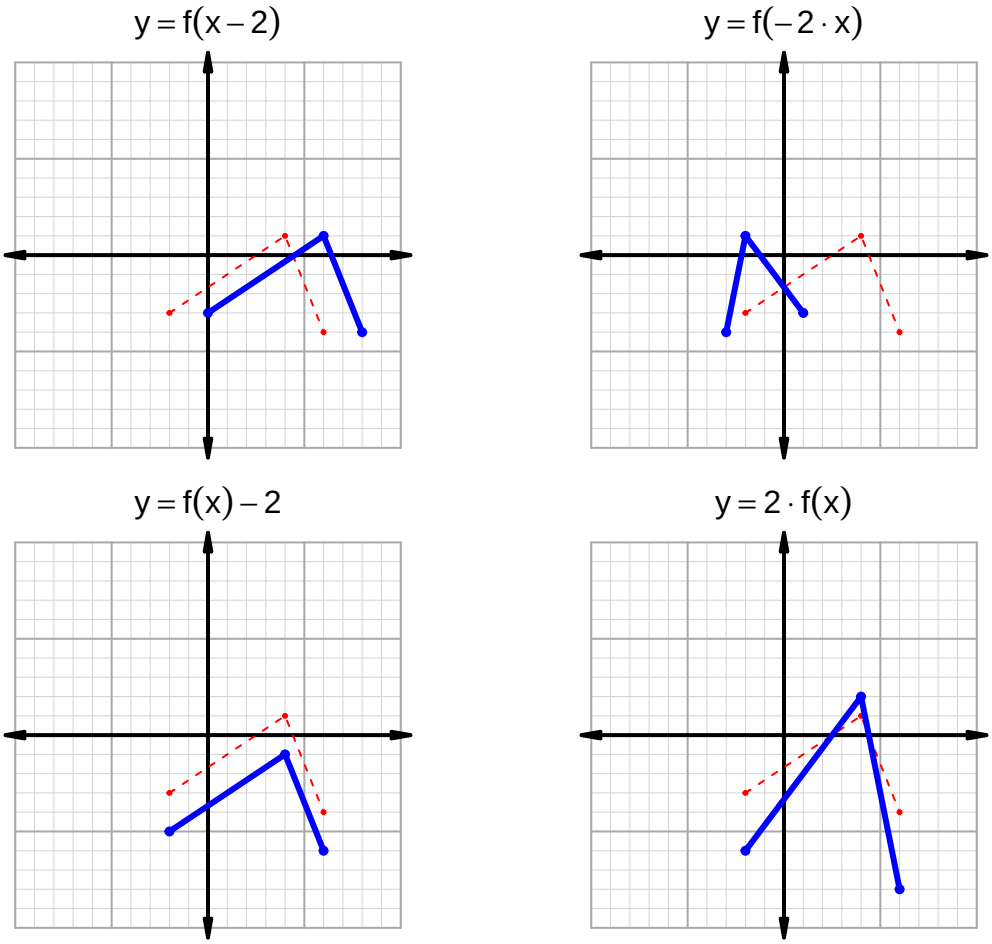


Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-1, 1) \cup (5, 8)$
Negative	$(-7, -1) \cup (1, 5)$
Increasing	$(-3, 0) \cup (2, 8)$
Decreasing	$(-7, -3) \cup (0, 2)$
Domain	$(-7, 8)$
Range	$(-6, 3)$

Intervals, Transformations, and Slope Solution (version 156)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 15$ and $x_2 = 50$. Express your answer as a reduced fraction.

x	$g(x)$
15	75
30	15
50	30
75	50

$\frac{g(50)-g(15)}{50-15} = \frac{30-75}{50-15} = \frac{-45}{35}$

The greatest common factor of -45 and 35 is 5. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-9}{7}$$